

SEPARATOR FOR FUEL CELL

Patent Number: JP10125337
Publication date: 1998-05-15
Inventor(s): YAMAJI ATSUSHI; TANAKA YOSHIKAZU; ISOBE KOICHI
Applicant(s):: NIPPON CARBON CO LTD
Requested Patent: ☐ JP10125337
Application Number: JP19960295881 19961018
Priority Number(s):
IPC Classification: H01M8/02
EC Classification:
Equivalents:

Abstract

PROBLEM TO BE SOLVED: To provide a separator having a gas-liquid impermeable function and high electrical conductivity by forming the separator into a final molded product, having bulk density between 1.0 and 1.7 using a die or a design roll for giving a final shape.

SOLUTION: Expanded graphite particles as raw materials are preliminarily molded under a pressure between 30 and 50kg/cm² at ordinary temperature, and an expanded graphite sheet is thereby prepared. This sheet has a bulk density between 0.6 and 1.0, and bubbles appear at a final molding process, when the bulk density is less than 0.6. Also, a difficult problem appear regarding the molding of the sheet into a final shape, when the bulk density is above 1.0. The suitable thickness of the preliminary sheet is approximately two times as large as the thickness of a final molded product. Furthermore, the final molded product needs to have bulk density between 1.0 and 1.7, thereby ensuring gas-liquid impermeability. When the bulk density is below 1.0, infiltration leakage occurs, and an economic inconveniences takes place, when the bulk density exceeds 1.7. Also, water-repellent treatment is applied to the surface of a separator having gas and liquid flow passages, before and after a final molding process or a design roll, whenever necessary. Also, a product compact and requiring inexpensive manufacturing cost is obtained.

Data supplied from the **esp@cenet** database - 12